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### THE HURON TRAINING CONFERENCE

Although the training meeting for the three northern states was delayed a full day because Bill Ihlanfeldt's new brown "jalopy" refused to run through a light tropical frost near Marysville, Kansas, the delay in no wise detracted from the success of the conference. A poll of those in attendance would score a unanimous vote that it was one of the most valuable, practical and usable training sessions ever attended by the men.

This Project certainly was fortunate to secure the services of a training officer of Walt May's caliber. He gained the full confidence of the entire group at the outset. He knows his business and how to put it out in a way that takes like a smallpox vaccination. Walt unquestionably contributed more to the success of the conference than any other factor, and we have Region 8 to thank for loaning us so outstanding a man.

Another factor which contributed greatly to the outcome of the session is the fact that the trainees are a group of smart, alert men, eager to learn new and better training methods. When a trainee like Walt May and the group of trainees that we have in the three northern states get together, the only possible result is a successful training conference. There is no doubt in my mind but that all in attendance went home far better trainers of men, imbued with a desire to put what they learned into effect on their respective units. That is what I call real training results.

I, personally, was particularly impressed with the practical way in which the conference was conducted. Practice topics were not just plucked from thin air for the sole purpose of practice, but they dealt with current problems we actually face. As a result, the leader and the group many times forgot that they were only practicing, feeling instead that they were contributing to real live problems the Project is facing today, and they were. The outlines developed at these practice conferences constitute what I believe to be pretty close to the best thinking and judgment of the three northern states. The fund of opinions and information assembled at this conference, despite the fact that it was only a training session, constitutes a valuable reference that might well be considered carefully in arriving at policies and procedures in the future. When a training session ends up that way, I ask you, is it practical, or is it practical?

Each trainee was criticized at the end of his practice conference by a selected critique leader. Criticisms were frank but constructive. I was impressed with the splendid way trainees took the criticism. There seemed to be but one idea in the minds of everyone -- improvement in training. The man who was criticized took it gracefully and knew that it was for his own improvement. At the same time, the one who criticized did it with the sole purpose of helping the other fellow (the trainee). That's a fine attitude from both ends and can not help but move down "old progress alley."

The week was cold, as low as 26 degrees below zero, but the gang did not notice it because of the accommodations. Our conference room was in the hotel where we all put up, so it was not necessary to go outside. It was Walt May's first experience in real cold weather. The coldest morning (26 below) he bundled up to see what it was like to be out in such temperatures. Upon checking on the brisk walk he took, it was found that he traveled from the Coffee Shop door to the east door of the hotel, a distance of some 18 feet. In future years, I suppose, he will relate to his grandchildren how he braved a South Dakota blizzard at 26 below for two days and one night.

Evenings were devoted to relaxation with guessing games being indulged in by most of the men. Since South Dakota desired to entertain the guests, we proved to be gracious hosts (I mean, in the guessing games).

Summing up, we worked together, thought together, criticized together, ate together and played together, and I'm sure that we are all together in the belief that it was one of the best conferences that has ever been run off in the history of the Project.

- A. L. Ford, S.Dak.

#### "SOMEWHERE ELSE"

In an article, "Somewhere Else," in the December Land Policy Review, Paul H. Johnstone shows that county planning agencies find that there are too many farmers and that some must be moved. His illustrations come from New England, California, the Plains -- everywhere, it is the same; farm units must be made larger and displaced farmers taken care of "somewhere else." The planners, Johnstone says, are vivid and definite -- until it comes to the "somewhere else," which is vaguely stated as perhaps in the cities, in industry, or maybe there are lands which can be opened up to them.

Johnstone's article brings pertinent comments from State Director Webb of Texas, who says that all who have worked with County Land Use Planning Boards know Johnstone's story to be true and see therein a reason for the Planning Boards to promote concentration areas for shelterbelt plantings.

"The implication of Johnstone's article is plain," Webb writes. "Rural people must be mainly rehabilitated in place, and present recommendations by County Land Use Planning Boards for larger farm units must be changed to recommendations for smaller subsistence units where they can be made practicable.

"We should be able to show that many more acres raising only half a crop are needed to support a family than where a full crop or increased production can be obtained. We know that at least on our sandy areas the half crop is due to wind erosion which our shelterbelts have proved they can

control. We know that adequate tree protection will make possible the subsistence garden so necessary to farms of this type. All of us should be able to tell County Land Use Planning Committees of the many advantages of having several small farms capable of supporting families independently, if not in luxury, as against a few large farms producing a considerably above-average income for the operators.

"The social and economic advantages are too numerous to catalogue here, but I do believe this article points to an opportunity for leadership which in turn can cause a growth on this Project beyond our present conception."

#### BEAT MINNESOTA!

Several years back, when Dana X. Bible was coaching football at Nebraska, he posted propaganda signs in the locker rooms in advance of every important football game to focus the players' attention on the important job ahead and to build up their fighting spirit. I well remember hearing about the signs he "plastered" around in advance of the Minnesota games. Since Nebraska didn't beat Minnesota in those days, some may question the effectiveness of the idea.

Our job in getting a respectable survival from our conifers is in no sense any easier than Nebraska's job in whipping Minnesota. But Nebraska, to my great chagrin and financial loss, finally did win and what's more did a corking good job of it. I think we can do the same with our conifer assignment this spring, but it's a job that calls for the best we've got and to start out we've got to build up our fighting spirit.

Maybe Bible's method wasn't worth a plugged nickel, but no one can doubt that his teams had the fighting spirit. So how about building up a scrappy attitude on this conifer planting problem of ours by posting a few mental signs in the minds of all our people who have anything to do with the production, handling, and planting of conifers. Suggestions for signs are in order, and I'll start out with:

"80% Survival on Pine or Bust!"

"Let's Lead the Project on Our Conifer Survival This Year."

"Pine -- Last Year 80% Dead -- This Year 80% Alive. We Can Do It."  
-- Harold E. Engstrom, R.O.

#### SAYING A LOT IN A FEW WORDS

Question VIII A., in Timber Management Examination No. 2, asks:

"What relationship, if any, does lands negotiations work bear to our I & E program? (Limit answer to 30 words.)"

Here's how a P. & T. foreman answers it:

"I'm called a land negotiator at present but after putting in a day in the field, devoting 80 percent of my time to I & E, I sometimes wonder if I'm named right."

Can anyone think of a more complete, concise and suggestive answer?

-- Nebraska

WE'VE ALWAYS SAID THE RABBITS WERE OF SOME USE

An innovation of interest in connection with Forest Service community rabbit hunts in South Dakota has developed during recent weeks. The proceeds derived from the sale of rabbits bagged at some of these hunts are now being turned over for Finnish Relief. This week a hunt in Hanson County yielded \$78 for this worthy purpose. Other hunts for Finnish Relief are in the offing.

- A. L. Ford, S.Dak.

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I have heard certain references made to Finns in South Dakota, but here in North Dakota we have "fighting" Finns. These Finns being a long way from home cannot take actual part in the fighting, but they are doing their bit by holding rabbit drives, the proceeds of which go to Finland's War Relief Fund. Some of our field men are prodding this idea along and as a result we are getting a lot of control without much effort, even though it is at the expense of the unfortunate Finland.

- Auburn S. Coe, N.Dak.

NEBRASKA SHELTERBELTS OF VALUE TO WILDLIFE

Nebraska shelterbelts are now showing a definite value with regard to wildlife, particularly in areas where native grasses and thickets have been destroyed. Most of the belts are so located that they are ideal from a game management standpoint, since they provide cover adjacent to fields where grain is available for the use of wild things with less danger from predators and the elements.

On a recent field trip, Mr. Hamm of the Biological Survey and I found many upland game birds, perching birds and mammals using the shelterbelts for protection. Accompanied by State Director Emerson, we visited the Ray Merryman 1936 planting and counted 200 jack rabbits and 10 cottontails, but they were doing very little damage. There were 10 to 12 inches of snow in the belt. Previous to this visit, Merryman and others had shot over 100 jack rabbits there.

At the W. F. Ambler 1938 shelterbelt, Mr. Hamm, Mr. Eaton and I counted 2 sharptail grouse, 12 prairie chickens and 46 pheasants. There were over 75 pheasants in the M. V. Ambler 1936 belt. The Clark B. Viehmeyer farmstead planting had 13 chuckar partridges, 175 pheasants and several cottontails, and has been used to some extent for nesting by perching birds. In fields adjacent to shelterbelts near Milburn we found a number of small coveys of bob whites.

Recently a questionnaire sent to all field officers sought information about the number of birds and other wildlife noted in shelterbelts during the hunting season. The reports listed 623 pheasants, 550 grouse, 24 prairie chickens, 2 quail and 125 unidentified perching birds. This survey covered a limited number of belts.

We plan to make a study of wildlife utilization of shelterbelts in each of our four districts next summer and fall. We will endeavor to determine the true value to wildlife of these plantings by observing whether they result in decentralizing the existing breeding bird population, of whether there is an increase in the number of birds because of greater actual

opportunity for increase, or possibly both results may be noted. We also hope to learn whether the greater protection afforded young birds will decrease the mortality rate, and determine the effectiveness of trees for cover, escape cover and as sources of food. We hope to have the help of one or two members of the Nebraska Ornithologists' Union in this study. Any suggestions will be appreciated.

- Carroll F. Orendurff, Nebr.

#### MIXING SPECIES TO PREVENT BLANK ROWS

The master forester is Mother Nature, who intermingles trees, herba-  
ceous plants, animals, birds and insects in a grand forest where nothing is  
wasted, and everything is in harmony. No two forests are alike; trees grow-  
ing on similar sites resemble each other, but they are different. Regimenta-  
tion of species does not occur in nature, but only in artificial plantings.  
The chief disadvantage arising from such regimentation in shelterbelts is  
that failure of a species results in a blank row as a glaring monument to a  
mistake. We wish to eliminate this.

Annual survival counts during our five years' planting experience on  
the Plains show each year the same pupils at the head of the class and the  
same problem children. In Kansas, honeylocust has become a fixture at the  
head of the survival class, while, excluding the shrubs, bur oak is Public  
Problem Child No. 1. Each year, now, we direct seed bur oak or transplant  
the small seedlings with the conviction that at the end of the season the oak  
row will be blank and the honeylocust row will be a pride and joy.

An operator of a tractor or a grape hoe can't be expected to know where  
the oak row is -- or even that there is anything in the row. Occasionally he  
may see a peculiar little plant peeping through the surface among the weeds.  
Sometimes he makes a minute examination of the plant, "but it's nothing like  
I have ever seen around these parts" so he covers it up well or cuts it out.  
Such is fate in the oak row, and just as we expected -- I told you so -- it is  
blank at the end of the season, a long scar in an otherwise beautiful shelter-  
belt. Alongside are the honeylocusts with a survival of 95 percent, nice  
husky trees as high as your head. In fact, survival of honeylocust in our 1935  
plantings is so good that the trees are crowding each other.

Now suppose we took these species and alternated them in both rows --  
first a honeylocust, then an oak in each row. We would plant the same number  
of each species as we do now, but we would give the farmer two well-marked  
rows to cultivate and eliminate the black sheep of the shelterbelt -- the  
blank row which we ordinarily expect from the oak plantings. Suppose that  
none of the oak survive. We still would have two fairly good rows of honey-  
locust spaced approximately 12 feet apart in the rows, close enough to prevent  
an eyesore and to eventually produce a full canopy. With every other hill in  
the oak row marked by a honeylocust, I feel certain that the survival of bur  
oak would be increased from 50 to 100 percent, and we would have at least the  
same number of honeylocust surviving.

Honeylocust and bur oak are taken as examples of our "haves" and "have  
nots," but other strong and weak surviving species could be used in the same  
way. The objective in each case would be to mark the row of slow-starting,  
hard-to-see species with a vigorous, quick-starting, easy-to-see species in

order to furnish a better target for the farmer in cultivation. In the event that the weak species does not produce a stand, there will be no glaring blank row.

Mixing species would complicate survival counts, but the difficulty should not be insurmountable. Like vaccination, mixing species would be inconvenient, but it might eliminate a transfusion after the patient has contracted the disease and for that reason might be justified.

- W. G. Baxter, Kans.

#### HOW ABOUT THOSE "UNUSUAL" ACCIDENTS?

We have given considerable thought to means of avoiding "unusual" accidents on our rabbit drives, but the very nature of such accidents makes it impossible to predict just what turn they will take and from what source they will come. Frequently, an "unusual" accident has to be experienced before we can take steps to prevent its recurrence, and we are fortunate indeed if the accident doesn't have serious results.

I have in mind an "unusual" accident in one of our districts not long ago which, happily enough, did not result in an injury but it did give us a warning.

One of our hunters unknowingly slipped a 12-gauge shell into a 10-gauge shotgun. When the gun was fired, the explosion tore the paper away from the brass casing and the whole thing went out of the barrel as a projectile. Several of the fellows saw the projectile ricochet across a plowed field for a half-mile. No one was hit, but if anyone had been hit he no doubt would have been hurt badly.

This accident was made possible through the habit of the crew throwing unused shells in a common box at the end of the day's hunt. All gauges of shells go into this box and they are not always carefully sorted afterwards.

We can guard against accidents of the usual sort because we know what to guard against. We know that it is dangerous to get in or out of a truck or car with a loaded gun, or to be careless in crawling through a fence, or to engage in promiscuous shooting, but the insidious thing about an "unusual" accident is the fact that it cannot be foreseen or guarded against.

I offer as a suggestion that anyone who has experienced or has knowledge of an "unusual" accident describe it in PLAINS FORESTER so that all of us may profit and perhaps avoid accidents of similar nature.

- Auburn S. Coe, N.Dak.

#### WATERING IN THE NURSERY

A rather controversial question among nurserymen in the Plains region is: How much water should be used in the nursery? Most nurserymen are of the opinion that not enough water is being applied and as a consequence, the percent of cull is running somewhat higher than is desirable.

To obtain some leads as to the response of several commonly planted species of broadleaf seedlings under carefully controlled degrees of watering, an experiment was conducted at Denbigh, North Dakota, in which 75 recently



germinated seedlings of each of six species were potted in 2 quart, sealed, wax-paper containers and held at three levels of available soil moisture for about two months.

The soil used was a Barnes very fine sandy loam with a moisture equivalent of 16.16 and a computed wilting coefficient of 8.78 percent. The three levels of moisture were dry, fresh, and moist. The actual range of total moisture, within which the three levels fluctuated, was 8 to 12, 12 to 16, and 16 to 20 percent. The pots were weighed at about 3-day intervals, and water added to hold them in the desired moisture range.

At the end of two months the seedlings were removed from the pots, measured, and weighed. Part of the results are given in the table below. All of the seedlings were well balanced and were most vigorous in the fresh and moist range.

Species	Moisture status	Approximate range of available soil moisture	Average length of top in inches	Total green weight per plant in grams
Chinese elm	Dry	0-3 $\frac{1}{2}$	3.9	0.6
	Fresh	3 $\frac{1}{2}$ -7	6.8	1.7
	Moist	7-11	9.3	3.7
Russian olive	Dry	0-3 $\frac{1}{2}$	1.9	0.4
	Fresh	3 $\frac{1}{2}$ -7	5.4	1.2
	Moist	7-11	6.9	1.8
Honeylocust	Dry	0-3 $\frac{1}{2}$	7.7	0.9
	Fresh	3 $\frac{1}{2}$ -7	8.7	1.1
	Moist	7-11	10.6	1.5
Green ash	Dry	0-3 $\frac{1}{2}$	2.6	0.3
	Fresh	3 $\frac{1}{2}$ -7	2.5	0.5
	Moist	7-11	3.9	0.6
Caragana	Dry	0-3 $\frac{1}{2}$	2.4	0.3
	Fresh	3 $\frac{1}{2}$ -7	1.7	0.3
	Moist	7-11	2.4	0.4

It will be noted from the table that in most cases there was a definite upward trend in height and a consistent upward trend in weight, with an increase in moisture. Chinese elm and Russian olive responded best to increased watering. These species increased in height 2.4 and 3.6 times respectively, and caused an even larger increase in green weight. Honeylocust and green ash responded fairly well, but Caragana did not appear to show the response of the other species. No data are given for cottonwood because this species had only a few survivors and these were in the "moist" range. None of the cuttings took root in the "dry" range. It may be of interest to state that a 16-inch-high rooted cottonwood used up to one-third of a pound of water in a 12-hour period.

Although this experiment was not conducted under exactly the conditions that prevail in the nursery, where growing conditions are better than in a sealed pot, still one would expect the same general trend to hold good, and the experiment indicates that the opinion that not enough water is used is probably correct.

Soil moisture samples taken in some of the nurseries indicate that we are holding the soil moisture level too much in the "dry" or lower part of the "fresh" range, and hence growth is not as good as is desirable. There is, of course, some danger that excessive watering will produce unbalanced stock with very poor root systems, but with our present policy of reducing water supply in early fall to "harden" the stock, there would not seem to be any great probability of producing stock of poor top-root ratio.

It would seem desirable for the nurserymen to watch soil moisture closely, and begin watering before the soil becomes dry, especially in those nurseries where present pumping capacity is small in relation to the total nursery area.

The actual determination of soil moisture in the nursery can be done by estimating total moisture, checked by occasional oven-drying or extraction of moisture by the alcohol-burning method. An alternative is use of the Livingston soil points. The determination of the wilting point for soil of a given texture is somewhat of a problem, but can be determined directly by pot experiments, or running a mechanical analysis or moisture equivalent on representative samples from different parts of the nursery and applying one of the two formulas listed below:

$$\text{Wilting coefficient} = \frac{\text{Moisture equivalent}}{1.84}$$

$$\text{Wilting coefficient} = .01 \text{ sand} + .12 \text{ silt} + .57 \text{ clay}$$

In the absence of any soil analyses one can still make a fairly close guess at the wilting coefficient from the table below:

<u>Soil class</u>	<u>Wilting coefficient</u>
Loamy sands	3-4
Light sandy loams	4-6
Fine sandy loam	6-8
Loam	8-12
Silt loam	12-15

In reality, there is a certain amount of overlapping between soil classes, but in most cases the wilting coefficient will be near the range indicated.

- J. H. Stoeckeler,  
Lake States Station.

## USES FOR MULBERRY TREES AND THEIR PRODUCTS

In Horticultural Abstracts, Vol. 9: No. 4, page 310, Dec., 1939, there is an interesting summary of E. Hine's "Algunas notas sobre el cultivo de la morera" (Notes on the Cultivation of Mulberry) from the Rev. Agric. C.N.A. Costa Rica, Vol. 4: pp. 215-224, 1939.

Following a description of the methods of growing mulberry from seed and from cuttings, there is a short statement on the uses of mulberry. It reads as follows, "It is assumed that the object of mulberry growing is the production of leaves for silkworms, but notes are given of various other uses to which the tree can be put. In particular, the great value of the leaves as cattle feed is stressed. They can be used equally well fresh, dried, compressed, or as ensilage, 10 pounds per day being suggested as an amount suitable to balance the normal ration."

Yea verily, trees and their products have many uses. Perhaps the use of mulberry leaves for cattle food might interest southwestern farmers, but it takes a great many leaves to weigh 10 pounds.

- E. Wright, R.O.

## UNIVERSITIES WANT MEN LIKE THESE

Items in PLAINS FORESTER led me to conclude that this is the season for superlatives -- the biggest trees, the hottest bowlers, the best cooperators, ad infinitum.

Reflection made me disconsolate. Trees don't grow any bigger on this subdistrict than elsewhere. I can't bowl very well, although I did break 200 on the local alleys and quit about a month ago. I have just about the average run of cooperators, with the usual fringe of "sandbur cover croppers" and the upstairs fringe of those who get out Sunday morning and hoe like all get out.

In fact, it just didn't seem as though we'd ever rate anything in PLAINS FORESTER -- until the other day. On that day, however, Jim Charvat told me one. A crew which had gone to an isolated, rabbit-ridden belt with orders to hunt the area as a last resort had covered a territory about a quarter-mile on either side and bagged 56 rabbits. Of this number -- take off your hats, boys -- the men caught 24 with their hands. They were not sick rabbits, either.

Now, you superlative hounds, there is something to shoot at. Have we a fast crew? Or have we?

- B. Davis, Nebr.

(I, for one, can readily believe it. I recall that when I first came West, a bounty was being offered for prairie dog scalps. I procured a .22 caliber rifle and set to work, but I quickly learned that while I could hit the dogs fairly easily, very seldom could I recover them for scalping purposes. By virtue of some God-given instinct and an unquenchable vitality they would twist, squirm, and roll toward the hole, and be out of sight by the time I got there, run as hard as I might.

As time went on, I improved my starting technique and speed, but I finally overdid it. One day I pulled the trigger on an unsuspecting dog, made a flying leap toward the hole -- and halfway there caught the bullet in the back of my leg. - E.L.P.)

### FOOTPRINTS IN THE SANDS OF TIME

It is now apparent that the Bank of North Dakota desires to secure the benefits of shelterbelt plantings for its farms. Yet, only a year ago we could not get a hearing from the local agent when we wanted to discuss an application for a shelterbelt received from a tenant on one of the bank's farms.

Mr. Brastrup of the Bank of North Dakota's lands department, accompanied by the local agent, Mr. Sonstrud, called on Subdistrict Officer Waldron recently and spent considerable time inquiring into the shelterbelt program. He was greatly interested and said the bank wishes to secure as many applications from tenants and plantings on its farm lands as possible, adding that the bank will furnish fence material to any tenant who wants a shelterbelt planting.

As the men prepared to leave, Mr. Brastrup instructed Mr. Sonstrud to line up what farms he could and send the applications to Waldron.

- Lester D. Hansen, N.Dak.

### RECIPE FOR DISPOSING OF WORN OUT EQUIPMENT

Take one old truck which has traveled approximately 100,000 miles (a panel would serve the purpose), and place inside it one sharp axe, two District Officers who are worn out and generally unfit for Government service, one rifle, and one 20-inch cut from a shelterbelt tree weighing approximately 80 pounds.

Start the car down the road about dark, and when it approaches a concrete culvert switch off the lights and let nature take its course. If the car turns over several times, the ingredients will be thoroughly mixed and the Government would have no further use for any of them.

Bill Ihlanfeldt could add this postscript: "After the remains are patched up as well as possible, the car could be transferred to a Nurseryman."

- Howard Carleton, Jr., Okla.

(Howard's experience recently wasn't exactly like this. The lights went out unexpectedly and he and Jim Kyle did a whirligig in their panel. Nevertheless, Howard nursed some painful bruises for a while.--Ed.)

### SO THAT THE WORLD MAY KNOW

"E. GARTH CHAMPAGNES ARE PROUD PARENTS!!"

So screams, in bold-face type nearly two inches tall, what purports to be the front page of the Dallas (Texas) Star. Of course, there is no daily Dallas Star, but it's a novel scheme for telling the world, and was hatched at Grand Island, Nebraska, where Garth is stationed.

The cleverly devised announcement, however, ignores several essentials dear to a newspaper man's heart. "Who," we know; but "what, where and when" remain deep secrets. Consequently, we can not pass on the information whether "it" is a future shelterbelter or a future shelterbelter's boss.

"Copyright applied for" appears on the master head, but whether for a copyright on the announcement or on the baby is not designated. It is our understanding, however, that babies are not copyrightable.

Anyway, we extend our congratulations to the Champagnes.

THE GENTLE ZEPHYRS

During 1939, 40 thousand people were exposed to the oratorical influence of 112 of our speech makers on 821 extraordinarily diverse occasions. That 112 speakers sounds a little fishy in view of the size of the field organization, but it is accounted for by the turnover of personnel during the year. The number is pretty close to 100 percent of the average male administrative personnel in the organization. The audiences ran the gamut from groups of farmers in rural school houses to church socials and state conventions, and judging by some of the comments which appear on the reverse of the address report cards, a highly diverting book could be written around the experiences of the lads who braved the terrors of the rostrum.

The following table shows how the speech-making activity fared in 1939 as compared with 1938:

State	No. of Addresses		No. of Speakers		No. of Persons Addressed		Av. size of Audience	
	1938	1939	1938	1939	1938	1939	1938	1939
N.Dak.	71	137	15	17	7,403	6,721	104	42
S.Dak.	100	93	17	16	7,299	5,988	73	64
Nebr.	90	64	21	14	7,128	3,523	78	55
Kans.	195	257	15	32	7,871	12,616	40	49
Okla.	112	188	20	18	10,450	8,550	93	45
Texas	22	68	5	15	970	3,139	44	46
Totals	590	807	93	112	41,121	40,537	70	50

The number of speeches increased by a third last year, and there was a 20 percent increase in the number of speakers. However, the total audience fell off slightly and the size of the average audience decreased from 70 to 50. Apparently the boys are going in for more and smaller - and maybe better - audiences.

Top honors this year goes to Earle C. Thomas, North Dakota, who made 41 addresses, followed by A. L. Ford, South Dakota, with 33. C. Lyman Calahan, of Kansas, had 29; James W. Kyle, of Oklahoma, had 26; and Ted Stebbins, of Kansas, 20. One Nebraskan and 20 Oklahomans were tied at 19, while one Kansan and two North Dakotans had 18 each.

In addition to the nose-to-nose presentation, the force made 41 radio broadcasts in 1939 as against 23 in 1938.

- E. L. Perry, R.O.

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NURSERYMAN'S FATHER DIES

Texas announces with deep regret the death of Nurseryman Albert Klein's father in late January. The entire Texas organization, as well as Al's numerous friends throughout the Project, extend their sincerest sympathy to him.

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### SOMETHING DIFFERENT IN RODENT CONTROL

If an idea I just learned about takes hold generally, rodent control expenses may fall off.

On a recent trip through the New Rockford subdistrict, I encountered one of the sportsmen of the area with whom I discussed the need for rodent control. He told me that he and his partner had been hunting rabbits at night. Their automobile is equipped with two revolving spotlights which are used to locate the targets, and they carry two portable lights which are used over their rifle sights. They do most of their hunting along shelterbelts, encountering seven to ten rabbits on each half-mile belt. My informant asserted: "Wherever there is a shelterbelt, that's where the rabbits are."

I believe that by encouraging this type of rodent control, both the cost and the amount of damage could be reduced considerably

- Corlie E. Hall, N.Dak.

### RED FACES IN THE SUNSET!

This is a saga of crimson -- but not sunburned -- faces, developed while Biological Aide Wells and I sought a rodent control crew whose routing we did not know.

As we sped along the highway, however, we were certain the men should be near because of the frequent fresh mounds of red dirt, the hallmark of the destructive little pocket gopher. Sure enough, when we topped one of the long, lazy hills typical of the rolling plains of West Texas, our gaze rested on a husky, blue-denim-clad individual industriously probing into the ugly red mounds beside one of our shelterbelts.

But what a shock! We thought everyone had been trained to bait the main tunnel to the gopher's domicile, not to the mound, and to be careful that no dirt covered the grain or blocked the passageway. This man, however, shoved the probe deep into the mound, twisted it quickly and levelled the dirt; then he placed 10 grains of poisoned maize in the hole before he tamped it shut with a vindictive heel and all the power of his husky body. Also, the probe he used was not suitable.

To my indignant query about who trained him and where he got that \*#/\*! (expletive) probe, he calmly stated the foreman's name and said the probe had come from the warehouse. I didn't recognize the foreman's name, but no matter-- the 18-month law had caused a personnel turnover comparable to that in the Russian army before the Mannerheim line and I did not know all of our crew foremen. Wells and I acted at once; we put this workman through the four-step training in the proper way to poison pocket gophers. He learned quickly, and soon we felt it safe to leave, and as we were departing he inquired:

"When did you start working for the Highway Department?"

Oh-oh! (Quickly, like Rochester.) Our subject was a Texas Highway Department employee poisoning pocket gophers along road shoulders and it was only chance that placed him beside a shelterbelt when we arrived. Our faces crimson, we hastily told him who we are and advised him to forget what we had taught him.

Perhaps our men should wear badges so we can know them.

- Thomas C. Croker, Jr., Tex.

REPORT OF ROW SPACING STUDY

In an attempt to settle the controversy over the spacing of nursery rows, a study was fashioned to test the economy of production in rows spaced 21" and 27" apart.

Three nurseries were appointed to sow blocks of four or five representative species, half of each block in 21" spacing and half in 27" spacing. Some of the stands established in these blocks were not favorable for comparison and they have been omitted from the discussion. Where the stands were comparable, careful records of both man and tractor hours were kept for all operations from seeding to harvest. As is to be expected, costs of culture were approximately proportionate to the lineal feet of rows in each plot.

Labor was valued at \$.30 per man hour, tractor operation at \$.50 per hour, land and land preparation at \$25 per acre, and seed at the project average cost per pound. The Sioux Falls Nursery had no blocks which could be used in this comparison. Below is a summary of the production and costs for several species at the Abilene and Chickasha nurseries:

Table I. Production

Nursery	Species	Production of Usable Trees			
		Per Row Foot		Per Acre	
		21"	27"	21"	27"
Abilene	Mulberry	1.30	1.26	32,250	24,430
	Green ash	3.34	3.22	83,270	62,290
	Osageorange	4.85	5.50	120,500	106,300
	Honeylocust	6.10	5.16	151,600	99,800
	Average	3.90	3.78	94,405	73,205
Chickasha	Apricot	1.90	2.52	47,220	48,700
	Chinese elm	6.75	7.23	167,875	139,850
	Black locust	1.99	2.08	49,500	40,300
	Average	3.55	3.94	87,865	76,283

Table II. Costs

Nursery	Species	Production Costs per M Trees:		
		21" Spacing	27" Spacing	Difference
Abilene	Mulberry	\$ 4.99	\$ 5.87	\$.88 in favor of 21"
	Green ash	1.99	2.09	.10 " " " 21"
	Osageorange	2.00	1.96	.04 " " " 27"
	Honeylocust	1.75	1.97	.22 " " " 21"
	Average	2.56	2.98	.42 " " " 21"
Chickasha	Apricot	5.95	4.41	.44 " " " 27"
	Chinese elm	3.22	3.05	.17 " " " 27"
	Black locust	4.02	3.71	.31 " " " 27"
	Average	4.38	3.72	.34 " " " 27"

It will be noted in the above tables that costs were definitely in favor of the narrower row spacing in one nursery and in favor of the wider row spacing in the other nursery. By reason of this widespread difference it does not seem justifiable to draw conclusions from the study.

- Alba H. Briggs, R.O.

FROM THE EDITOR'S NOTEBOOK

"Back in the Springs of 1920 to 1925 we stood on the site of Oklahoma City University and wondered how long it would take the trees that had been planted on the campus to grow big enough for shade trees," writes a puzzled columnist in the January 30 Oklahoma City Times. "Today we stand on the same spot, look at the same trees and wonder the same thing. We suggest that the campus shade project be turned over to Mr. Nelson and his shelterbelt boys. They have grown thousands of 30-foot-high shade trees on the west side's scorched plains in three years."

There's a whole story in that short paragraph. Maybe Jack and his boys have brought more people to realize that good tree growing is not merely an accident of Nature.

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Enthusiasm for forestation, following shelterbelt successes, has made its appearance in various parts of the Plains, but it is rare that one sees the exuberance that is demonstrated in the last issue of "The Kansas Club-woman." Besides devoting about seven inches to the PSFP in one item, the editors have inserted short boosts for different phases of forestry in the state, such as planting in the strip mine districts, school yard plantings, etc. The Forest Service figures prominently in the comments, which numbered eight, so interspersed in the reading matter that a reader is not allowed to get forestry out of his mind.

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All you who think you have rodent control problems are going to have to whet your imaginations if you expect to impress the public in the future. We offer excerpts from recent newspaper articles to illustrate the competition you face:

"McPherson (AP)--They're shooting jack rabbits out of trees now.

"Beuford Egbert, Dave Winter and Art Krehbiel, McPherson hunters, vouch for it.

"They saw a jack rabbit drop from a tree, shake himself and speed away.

"Later they bagged five jack rabbits from tree tops."--Hutchinson (Kan.) News Herald.

"Dighton.--Rabbits climb trees in western Kansas--when they can find the trees.

"H. S. Conner, motor car dealer, and Howard Land, postoffice clerk, out hunting, sighted a rabbit about 25 feet up in a tree.

"Conner used one bullet."--Hutchinson (Kan.) News Herald.

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Down Kansas way shelterbelts are becoming a factor in real estate attractions. An advertisement in the Hutchinson News Herald, offering a farm for sale, lists "two government tree strips" among the improvements noted by the real estate agent to attract a buyer.

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